

Readme

For sample project:

Readme_Function_block_fbIOL_RFID_32B_Siemens_TIAV15_V1.0.0.0.docx

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1. General information

1.1 Revision history and changes

Revision	Date	Author	Changes
0.10	11.03.2020	A.Bäker	Initial version
0.20			
1.00	17.03.2020	A.Bäker	The revision should be changed to version 1.00 with the technical release. Revision below 1.00 are unreleased preliminary revisions.

1.2 Project information

Topics	Data
Name of the sample project :	Function_block_fbIOL_RFID_32B_ Siemens_TIAV15_V1.0.0.0
Short description / Target definition :	
Category :	
Department / Company / Author ID :	Hans Turck GmbH&Co.KG Mülheim an der Ruhr

1.3 Instructions for use

This sample project has been created with great care and is available to the USER free of charge. TURCK does not guarantee faultlessness, excludes all liability and warranty claims, which can be excluded by law and has no obligation to correct any errors. This example project has been tested to a limited extent and has been tested only for its functionality as described. Compliance with the applicable standards, regulations and guidelines as well as the responsibility for safety considerations and use of the sample project is subject to the USER.

1.4 Range of validity

This sample project is based on the hardware and software of the respective manufacturers as well as on the associated documentation. Therefore, this example project only applies to the described installation. New hardware and software versions may require modified handling. Please see the detailed description in the respective manuals.

2. Reference Material

2.1 Hardware

List of used Hardware and their firmware versions.

Vendor	Part no.	Type	Revision	Comment	Quantity
Siemens	6ES7 1513-1AL00-0AB0	CPU 1513-1 PN	FW v1.8		
Turck	6814029	TBEN-S2-4IOL	FW3.4.0.0		

2.2 Software

Operating system information

Used programming software and configuration tools (e.g. Programming environment, libraries, device files, etc.)

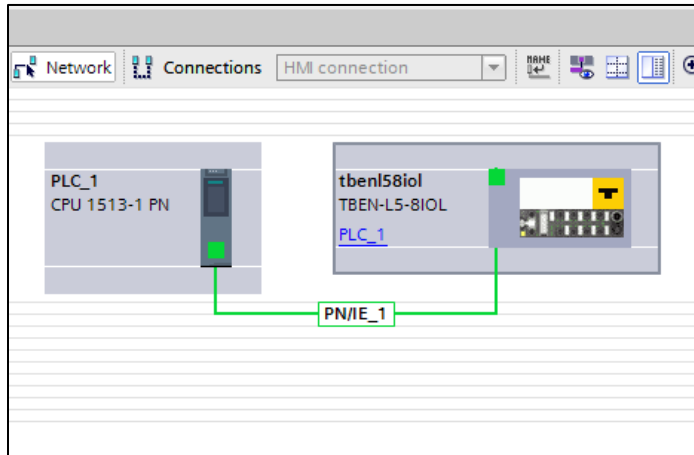
Vendor	Type	Revision	Comment
Siemens	TIA-Portal V15	Version V15 Update 4	

3. Example Application (Demo)

This is an example program to show the function block for RFID IOL2 device of the TBEN-S2-4IOL module on a Siemens PLC.

3.1 Configuration (TIA-Portal V15 with the PLC 1513-1 PN)

3.1.1. Overview of the devices



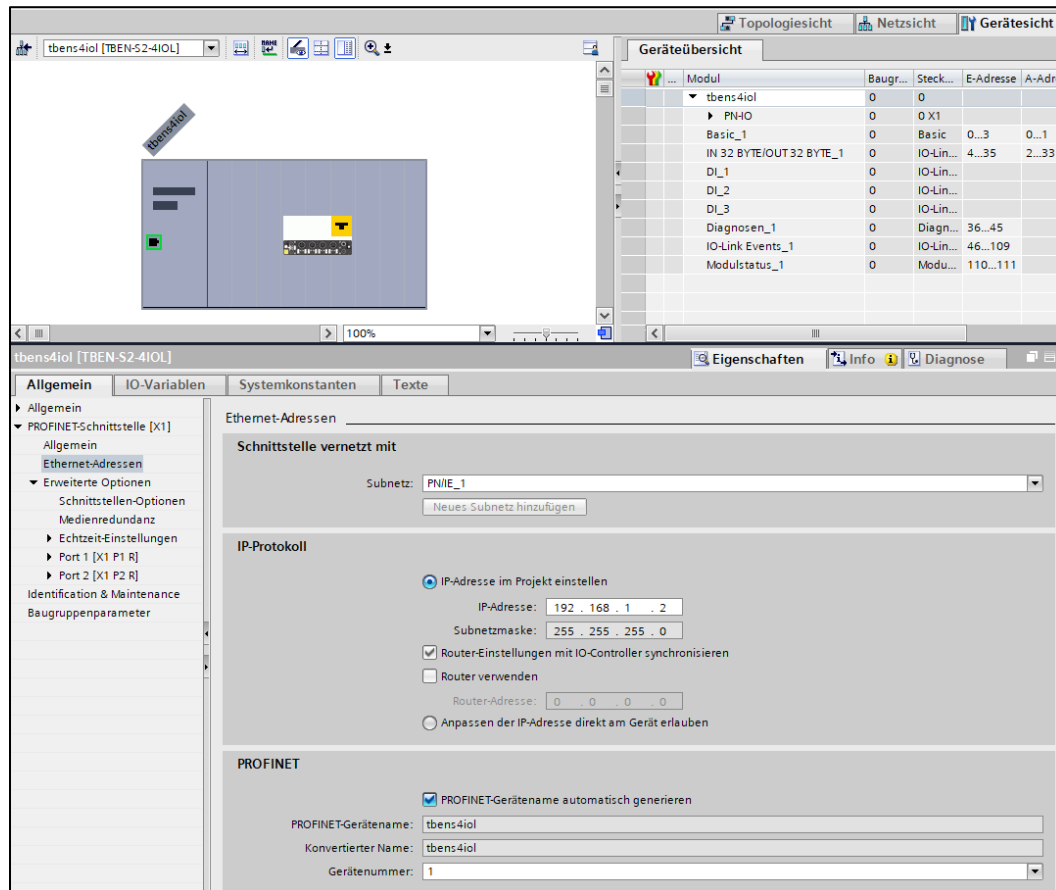
3.1.2. IP settings of the Siemens PLC

The screenshot shows the TIA Portal interface with the 'plc1500 [CPU 1513-1 PN]' selected. The 'Device overview' table on the right lists the modules:

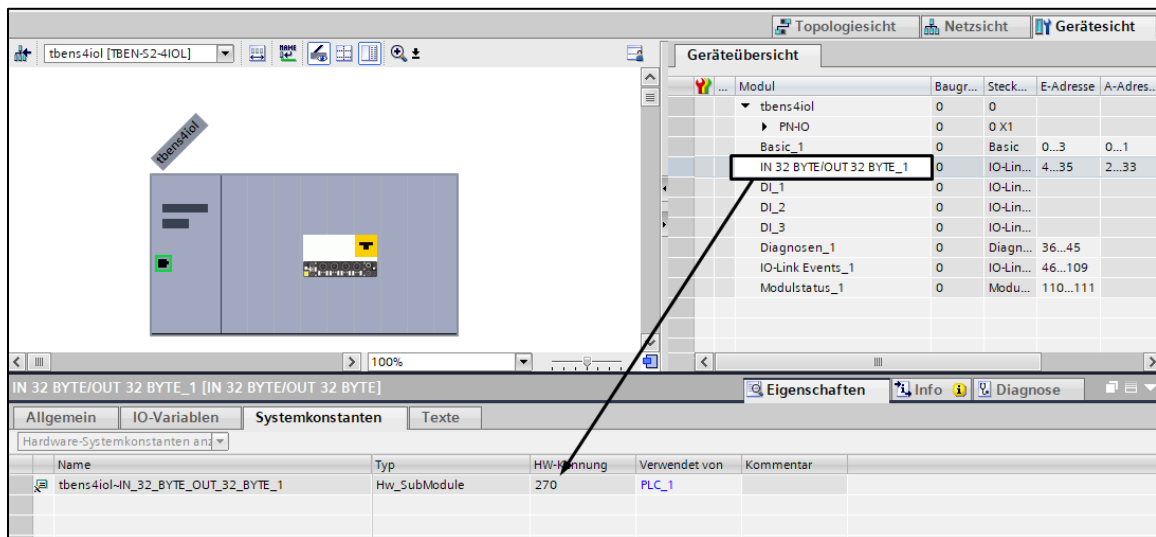
Module	Rack	Slot	I address	Q address	Type	Article...
plc1500	0	0			CPU 1513-1 PN	6ES7...
PROFINETSchnittstelle_1	0	1 X1			PROFINET interface	

The 'Properties' window for the selected device is open, showing the 'Ethernet addresses' tab. The 'Interface networked with' is set to 'PN/IE_1'. The 'IP protocol' section shows the 'Set IP address in the project' option selected, with the IP address set to '192.168.1.4' and the subnet mask set to '255.255.255.0'. The 'PROFINET' section shows the 'Generate PROFINET device name automatically' option selected, with the device name set to 'plc1500' and the device number set to '0'.

3.1.3. PN settings of the TBEN-S2-4IOL



3.1.4. HW identification of the SUB modules

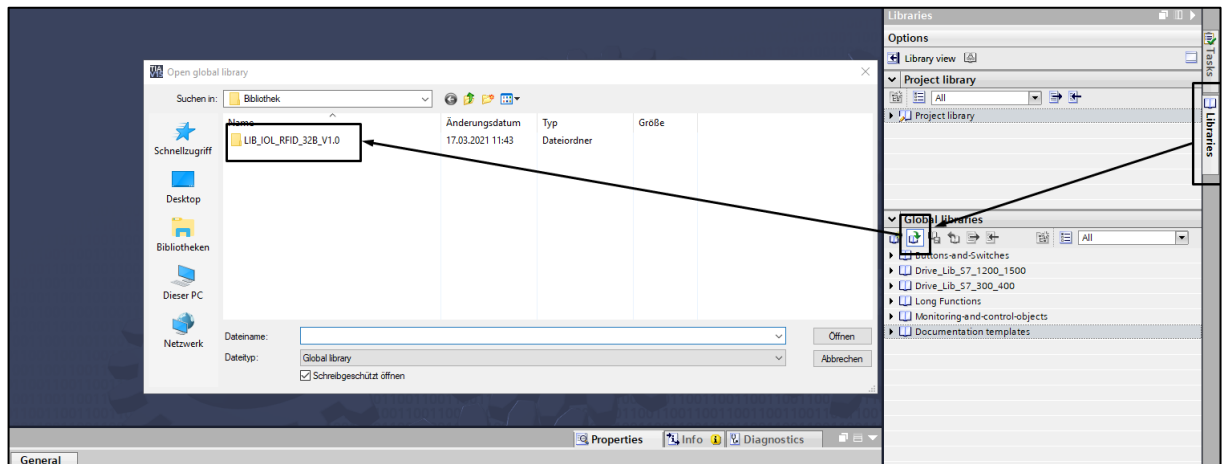


- Each SUB module has its own HW identifier
For the demo program the following identifiers are given:
 - Port1 = "270"

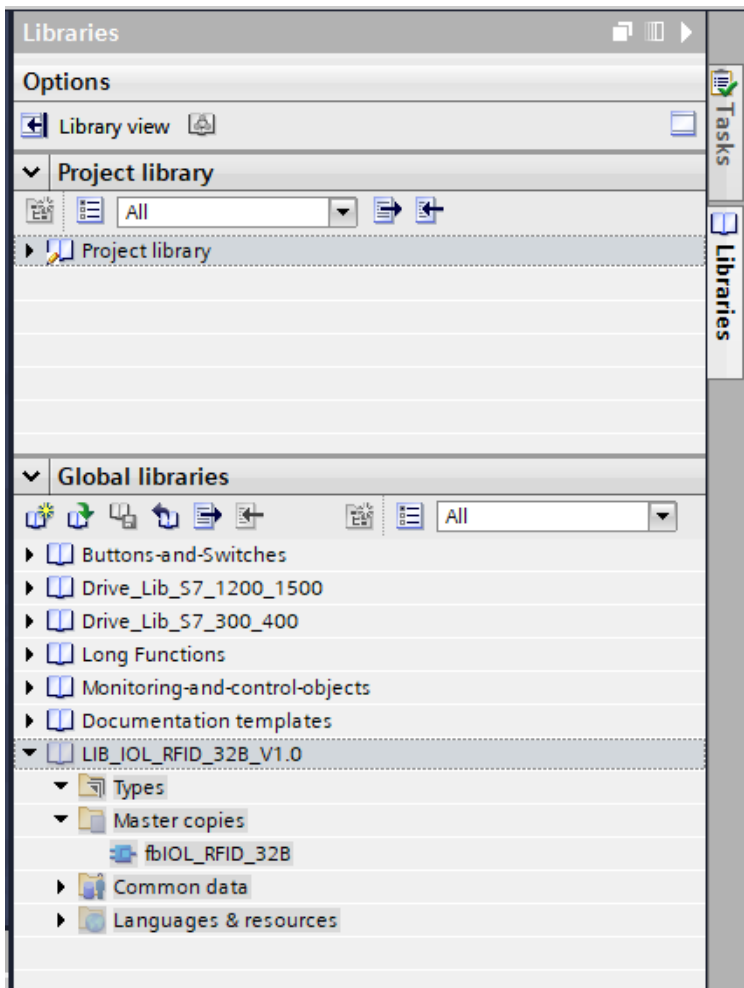
The HW identification of the individual SUB modules is required for the function blocks in the program.

3.1.5. Install the "fbIOL_RFID_32B" library

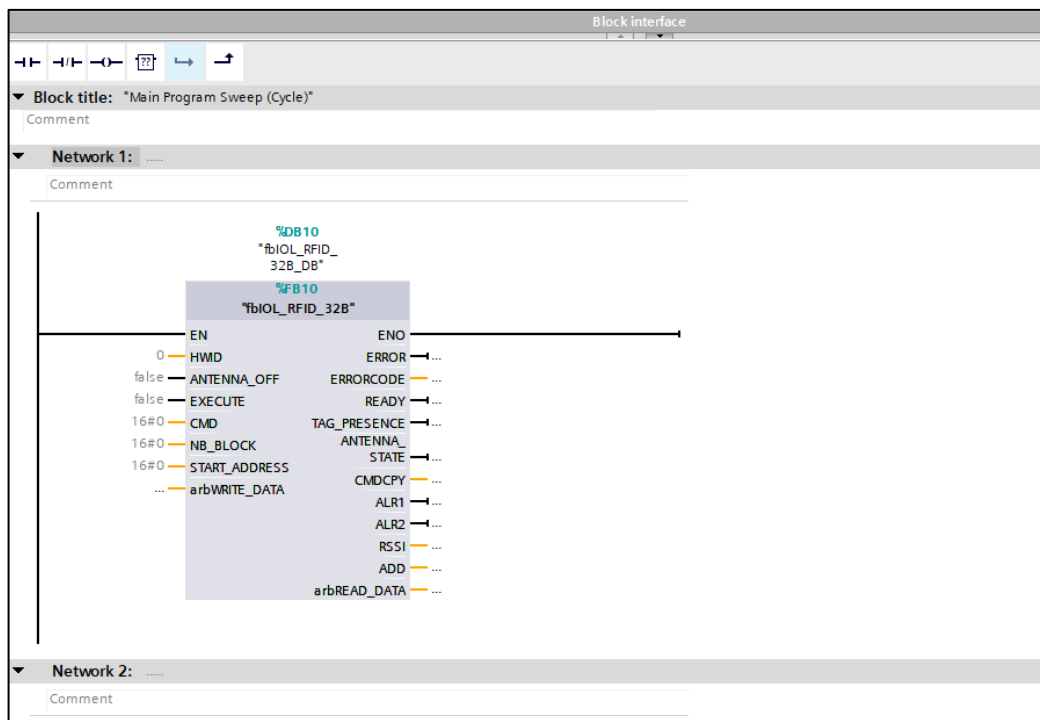
Go to the library manager and open the library.



If the library has been successfully installed, you will see it in the library manager.



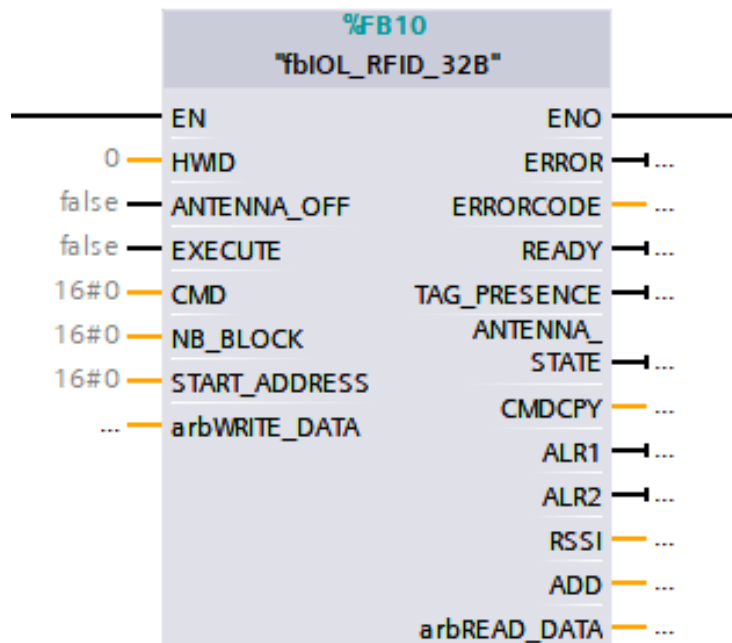
Adding and wiring a module in the project



3.2 Description of the function

3.2.1. fbIOL_RFID_32B

3.2.1.1 General overview



Inputs	Typ	
HMD	HW_SUBMODULE	Hardware ID of IO-Link port
ANTENNA_OFF	BOOL	Antenna switch on(FALSE) and off(TRUE)
EXECUTE	BOOL	Command execute (Execution on positive and negative edge)
CMD	BYTE	Command 1 = auto read; 2 = auto write; 3 = read; 4 = write; 5 = UID
NB_BLOCK	BYTE	Length of Blocks
START_ADDRESS	BYTE	Start address
arbWRITE_DATA	Array[0..27] of Byte	Write data
Outputs		
ERROR	BOOL	Error
ERRORCODE	BYTE	Errorcode (Description see manual)
READY	BOOL	Command executed successfully
TAG_PRESENCE	BOOL	TAG available
ANTENNA_STATE	BOOL	Antenna activated ON = TRUE; OFF = FALSE
CMDCPY	BYTE	Selected command
ALR1	BOOL	Alarm 1 can be set in the device
ALR2	BOOL	Alarm 2 can be set in the device
RSSI	BYTE	Signal strength of the TAG
ADD	BYTE	Selected address
arbREAD_DATA	Array[0..27] of Byte	Read Data

3.3 Operation Manual